CH2MHILL TRANSMITTAL

To: Idaho Department of Environmental Quality
1410 N. Hilton
Boise, ID 83706

From: Rick McCormick

Attn: Mr. Bill Rogers

Date: April 9, 2007

Re: 15- Day Pre-Permit Construction Application

We Are Sending You:

X	Attached	Under separate cover via	
	Shop Drawings	Documents	Tracings
	Prints	Specifications	Catalogs
	Copy of letter	Other:	

Quantity	Description
1	15-Day PTC Application -- Glanbia Foods, Inc. (includes CD w/ modeling files & emission calcs)
	$1,000 Application Fee included

If material received is not as listed, please notify us at once

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State Air Program

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PTC (15-Day Pre-Permit Construction) Application

Glanbia Foods, Inc.,

Gooding, Idaho

Prepared for

Glanbia Foods, Inc.

April 2007

CH2MHILL

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1.0 Introduction

Glanbia Foods, Inc. (Glanbia) is proposing to increase lactose production at their Gooding, Idaho Facility. Glanbia is requesting a Permit to Construct (PTC) for an increase in lactose whey powder production. Currently, the lactose system has not required a PTC. To expedite construction for this lactose production increase, the requirements for Pre-Permit construction approval will be followed in accordance with the *Rules for the Control of Air Pollution in Idaho* (IDAPA) 58.01.01.213.02.

In a 1996 technical PTC memorandum prepared by the Idaho Department of Environmental Quality (DEQ), a Director's exemption was granted for the lactose scrubber (IDAPA 16.01.01.220.04). It was determined that the scrubber would not have any operating limitations since it can operate at a maximum capacity continuously without having the potential to emit more than 100 tpy of a regulated pollutant. Since this determination was made, the *Rules for the Control of Air Pollution in Idaho* (IDAPA 58.01.01.213.02) have been revised and a Directors' exemption is no longer applicable. Therefore, Glanbia is seeking a PTC for the lactose scrubber.

Additionally, in the 1996technical PTC memorandum, DEQ also determined that the lactose baghouse is used to recover dried whey product. This process could not operate without the baghouse because removing it results in a total loss of product. Therefore, the baghouse is considered process equipment.

An informational meeting will be held at the New Meeting Hall at the Gooding County Fairgrounds located at 201 Lucy Lane in Gooding, Idaho from 7 to 8 PM on Friday April 13, 2007 in accordance with the Rules for the Control of Air Pollution in Idaho, Idaho Administrative Code, *IDAPA 58.01.01.213.02 – Permit to Construct Procedures For Pre-Permit Construction*. A copy of the public announcement is included in Appendix A.

An application fee of $1,000.00 has been included with the application submittal in accordance with IDAPA 58.01.01.226. A signed general information application form (GI) is provided along with the DEQ application forms included in Appendix B.

This pre-permit construction and PTC application includes a process description, plot plan, process flow diagram, emission estimates, modeling protocol and results, and regulatory review. This application is intended to satisfy the requirements for Pre-Permit Construction in accordance with IDAPA 58.01.01.213.

2.0 Process Description

The plant has been in operation since 1996 and was constructed on generally level, agricultural land in Gooding, Idaho. This site, located at the corner of 1728 South and 2300 East Roads, is a rural area surrounded by agriculture.

The Glanbia facility produces whey powder from the lactose production line. The lactose process line sends lactose through an evaporator, concentrator, crystallizer, centrifuge and then a dryer. The exhaust gas from the dryer is sent through a cyclone where product is recovered and recirculated back to the product stream. The product that is not recovered in

the cyclone passes through a scrubber. From the dryer, lactose is transferred to a sifter, mill, classifier and a baghouse where the finished product is recovered. The finished product is sent on for packaging. Traces of particulate matter are released to the atmosphere separately through the top of a scrubber and baghouse. The solids feed rate entering the lactose dryer is currently estimated at 6,626 pounds per hour (lb/hr). The new solids feed rate is estimated at 7,621 lb/hr, resulting in a net increase of 995 lb/hr of whey product. A process flow diagram of the lactose production line is provided in Appendix C.

3.0 Scaled Plot Plan

The scaled Site Plan is provided in Figure 1.

4.0 Emission Estimates

Particulate matter emission calculations were performed for one baghouse and one scrubber associated with the net increase in lactose whey production. Particulate matter less than 10 microns in diameter (PM_{10}) is the only regulated pollutant affected by the production increase.

The net increase in PM_{10} emissions for the lactose baghouse is below 10% of the significant emission rate of 1.5 tons per year and satisfies the BRC criteria for a Category I exemption in accordance with IDAPA 58.01.01, Sections 220-223. In addition, the lactose baghouse is considered process equipment.

No design changes are required for the lactose dryer. Potential to emit (PTE) emission calculations from the proposed production increase along with baghouse efficiencies supplied by Bay Area Industrial Filtration are included in Appendix D. In addition, there are no toxic air pollutants released associated with this production increase.

5.0 Facility Classification

The Gooding facility is classified as a minor facility because its PTE is less than major source thresholds without requiring PTE limits. The facility is not a designated facility as defined in IDAPA 58.01.01.006.26. The facility is not a major source as defined in IDAPA 58.01.01.008.10.

The facility is located in Gooding County which is classified as unclassifiable for all regulated criteria pollutants (PM_{10}, CO, NO_x, SO_2, lead, and ozone).

6.0 Ambient Impact Analysis

An air dispersion modeling protocol was prepared by CH2M HILL and submitted to IDEQ on March 23, 2007. The source parameters and modeling assumptions identified in the modeling protocol have changed to reflect only the lactose production system. The protocol was approved via e-mail by Kevin Schilling of IDEQ on March 26, 2007. A copy of the air dispersion modeling protocol and IDEQ approval letter is included in Appendix E.

Each stack is located on the same roof tier within approximately 30 to 40 feet of one another. Stack parameters and corresponding emission rates from the lactose scrubber and lactose baghouse were utilized to evaluate the lowest value of **M** (Merged Parameters for Multiple Stacks) as a representative stack. SCREEN3 modeling was performed using a combined emission rate for PM through a single representative stack (Merged Parameters for Multiple Stacks, pg 2-3, Screening Procedures for Estimating the Air Quality Impact of Stationary Sources, Revised, USEPA, October 1992). A table representing the lowest value of **M** along with a copy of the referenced guidance material is included in Appendix F.

The SCREEN3 modeling program has two building downwash options available, a non-regulatory and a regulatory option. The non-regulatory, Schulman-Scire, building downwash method takes into account the position of the source on the building and is based on the diffusing plume approach with fractional capture of the plume by the near-wake recirculation cavity.

The regulatory, Huber-Snyder, downwash method assumes that the building can be approximated by a simple rectangular box and includes wake effects using automated distance array or discrete distance options. The Huber-Snyder method also includes cavity calculations for two building orientations; first with the minimal horizontal building dimension alongwind, and second with the maximum horizontal dimension alongwind. For this model, CH2M HILL chose to run the Huber-Snyder method for building downwash.

Stack parameters were provided by the manufacturer, Niro Inc., based on the 1996 permit application submittal.

TABLE 1 – STACK PARAMETERS

Parameters	Lactose Scrubber	Lactose Baghouse
Source Type	Point	Point
Emission Rate (g/s)	0.083	0.001
Stack Height (m)	25.6032	25.6032
Stack Inside Diameter (m)	1.1198	0.9997
Stack Exit V (m/s)	38.000	4.800
Stack Gas Exit Temperature (k)	330.37	322.04

Ambient Air quality standards for PM_{10} are not violated. SCREEN3 modeling results are below the significant contribution levels for PM10 for the annual average of 1 microgram per cubic meter ($\mu g/m^3$) and the 24-hour average of 5 $\mu g/m^3$. A table summarizing the SCREEN3 modeling results along with a copy of the SCREEN3 output results are provided in Appendix G.

A copy of a CD containing modeling files and emission calculation are included with this application.

7.0 Applicable Requirements

A regulatory analysis was performed for the Gooding facility to determine the applicability of the state and federal air quality regulations. The regulatory applicability determinations are included in this section.

The following sections address air quality regulatory compliance requirements for the Gooding facility. As detailed below, the source will comply with all applicable Idaho air quality regulations codified in IDAPA 58.01.01, as well as applicable EPA Code of Federal Regulations (CFR).

Federal Regulations

No federal regulations are applicable to this lactose whey production increase or lactose scrubber.

IDAPA Regulations

IDAPA 58.01.01.123
CERTIFICATION OF DOCUMENTS

> "All documents, including but not limited to, application forms for permits to construct, application forms for operating permits, progress reports, records, monitoring data, supporting information, requests for confidential treatment, testing reports or compliance certifications submitted to the Department shall contain a certification by a responsible official. The certification shall state that, based on information and belief formed after reasonable inquiry, the statements and information in the document are true, accurate, and complete."

IDAPA 58.01.01.124
TRUTH, ACCURACY AND COMPLETENESS OF DOCUMENTS.

> "All documents submitted to the Department shall be truthful, accurate and complete."

IDAPA 58.01.01.125
FALSE STATEMENTS

> "No person shall knowingly make any false statement, representation, or certification in any form, notice, or report required under any permit, or any applicable rule or order in force pursuant thereto."

IDAPA 58.01.01.130
STARTUP, SHUTDOWN, SCHEDULED MAINTENANCE, SAFETY MEASURES, UPSET AND BREAKDOWN.

1. Lactose Scrubber

If an excess emission event occurs during startup, shutdown, scheduled maintenance, safety measures, upset or breakdown, Glanbia will comply with IDAPA 58.01.01.130 through 58.01.01.136.

IDAPA 58.01.01.156
TOTAL COMPLIANCE

> "Where more than one (1) section of these rules applies to a particular situation, all such rules must be met for total compliance, unless otherwise provided for in these rules."

IDAPA 58.01.01.157
TEST METHODS AND PROCEDURES

1. Lactose Scrubber

If an emission test is required, Glanbia will adhere to procedures outlined in IDAPA 58.01.01.157.

IDAPA 58.01.01.161
TOXIC SUBSTANCES

> "Any contaminant which is by its nature toxic to human or animal life or vegetation shall not be emitted in such quantities or concentrations as to alone, or in combination with other contaminants, injure or unreasonably affect human or animal life or vegetation."

IDAPA 58.01.01.200
PROCEDURES AND REQUIREMENTS FOR PERMITS TO CONSTRUCT

1. Lactose Scrubber

Upon approval of the 15-Day PTC by DEQ, Glanbia will follow the procedures and requirements outlined under IDAPA 58.01.01.200 for obtaining a PTC.

IDAPA 58.01.01.210
DEMONSTRATION OF PRECONSTRUCTION COMPLIANCE WITH TOXIC STANDARDS

Lactose Scrubber

> "In accordance with Subsection 203.03, the applicant shall demonstrate pre-construction compliance with Section 161 to the satisfaction of the Department. The accuracy, completeness, execution and results of the demonstration are all subject to review and approval by the Department."

No increase in toxic emission estimates is associated with the lactose whey production increase.

IDAPA 58.01.01.213
PRE-PERMIT CONSTRUCTION

Lactose Scrubber

Glanbia will comply with procedures and regulations outlined in this section in order to obtain the 15-Day PTC.

IDAPA 58.01.01.213.02. Permit to Construct Procedures for Pre-Permit Construction

IDAPA 58.01.01.213.02.a Informational Meeting

"Within ten (10) days after the submittal of the pre-permit construction approval application, the owner or operator shall hold an informational meeting in at least one (1) location in the region in which the stationary source or facility is to be located. The informational meeting shall be made known by notice published at least ten (10) days before the meeting in a newspaper of general circulation in the county(ies) in which the stationary source or facility is to be located. A copy of such notice shall be included in the application."

Please see a copy of the Notice in Appendix A.

IDAPA 58.01.01.220 General Exemption Criteria For Permit to Construct Exemptions

IDAPA 58.01.01.221 Category I Exemption

"No permit to construct is required for a source that satisfies the criteria set forth in Section 220 and the following:"

IDAPA 58.01.01.221.01 Below Regulatory Concern

"The maximum capacity of a source to emit an air pollutant under its physical and operational design considering limitations on emissions such as air pollution control equipment, restrictions on hours of operation and restrictions on the type and amount of material combusted, stored or processed shall be less than ten percent (10%) of the significant emission rates set out in the definition of significant at Section 006."

The lactose baghouse satisfies the BRC exemption criteria for a Category I exemption in accordance with IDAPA 58.01.01, Sections 220-223. However, the lactose scrubber facility does not meet the BRC criteria of a category I exemption outlined in IDAPA 58.01.01.221.01 (Below Regulatory Concern). The maximum capacity of this source to emit an air pollutant is greater than ten percent of the significant emission rate defined in IDAPA 58.01.01.006.90.

IDAPA 58.01.01.300 PROCEDURES AND REQUIREMENTS FOR TIER I OPERATING PERMITS

"The purposes of Sections 300 through 399 are to establish requirements and procedures for the issuance of Tier I operating permits."

Not applicable – facility classified as minor source.

IDAPA 58.01.01.577
AMBIENT AIR QUALITY STANDARDS FOR SPECIFIC AIR POLLUTANTS (PM-10, SOx, NOx, CO, Pb)

IDAPA 58.01.01.577.01 PM-10 Standards

1. Lactose Scrubber

IDAPA 58.01.01.577.01.a Primary and Secondary Standards

IDAPA 58.01.01.577.01.a.i **Annual Standard**

"Fifty (50) micrograms per cubic meter, as an annual arithmetic mean -- never expected to be exceeded in any calendar year."

IDAPA 58.01.01.577.01.a.ii **24-hr Standard**

"One hundred fifty (150) micrograms per cubic meter as a maximum twenty-four (24) hour concentration -- never expected to be exceeded more than once in any calendar year."

IDAPA 58.01.01.578
DESIGNATION OF ATTAINMENT, UNCLASSIFIABLE, AND NONATTAINMENT AREAS

The proposed site for the stationary sources, Gooding County, is in an attainment or unclassifiable area for NO_x, CO, SO_x, ozone, lead, and PM_{10}; the appropriate modeling parameters will reflect this designation.

IDAPA 58.01.01.590
NEW SOURCE PERFORMANCE STANDARDS

The proposed sources are not subject to 40 CFR Part 60.

IDAPA 58.01.01.591
NATIONAL EMISSION STANDARDS FOR HAZARDOUS AIR POLLUTANTS

The proposed sources are not regulated under 40 CFR Part 61 and 40 CFR Part 63.

IDAPA 58.01.01.625
VISIBLE EMISSIONS

1. Lactose Scrubber

"A person shall not discharge any air pollutant into the atmosphere from any point of emission for a period or periods aggregating more than three (3) minutes in any sixty (60) minute period which is greater than twenty percent (20%) opacity as determined by this section."

It is proposed that the facility will conduct a quarterly inspection of the scrubber during periods when the engines are in operation. The inspection will be conducted during daylight hours and under normal operating conditions. The inspection will consist of a see/no see evaluation. If any visible emissions are present from the point of emission, appropriate corrective action will be taken as expeditiously as practicable, or a Method 9 opacity test in accordance with the procedures outlined in IDAPA 58.01.01.625 will be performed. Records of the results of each visible emission inspection and each opacity test when conducted will be maintained. The records will include, at a minimum, the date and results of each inspection and test and a description of the following: the assessment of the conditions existing at the time visible emissions are present (if observed), any corrective action taken in response to the visible emissions, and the date corrective action was taken.

IDAPA 58.01.01.650
RULES FOR CONTROL OF FUGITIVE DUST

1. Material Handling
2. Right of ways

Glanbia will take all reasonable precautions to prevent the generation of fugitive dust as outlined under IDAPA 58.01.01.650-651.

IDAPA 58.01.01.651
GENERAL RULES

1. Material Handling
2. Right of ways

"All reasonable precautions shall be taken to prevent particulate matter from becoming airborne. In determining what is reasonable, consideration will be given to factors such as the proximity of dust emitting operations to human habitations and/or activities and atmospheric conditions which might affect the movement of particulate matter. Some of the reasonable precautions may include, but are not limited to, the following:"

IDAPA 58.01.01.651.01 **Use Of Water or Chemicals**
"Use, where practical, of water or chemicals for control of dust in the demolition of existing buildings or structures, construction operations, the grading of roads, or the clearing of land."

IDAPA 58.01.01.651.02 **Application Of Dust Suppressants**
"Application, where practical, of asphalt, oil, water or suitable chemicals to, or covering of dirt roads, material stockpiles, and other surfaces which can create dust."

IDAPA 58.01.01.651.03 **Use Of Control Equipment.**
"Installation and use, where practical, of hoods, fans and fabric filters or equivalent systems to enclose and vent the handling of dusty materials. Adequate containment methods should be employed during sandblasting or other operations."

IDAPA 58.01.01.651.04 **Covering Of Trucks**
"Covering, when practical, open bodied trucks transporting materials likely to give rise to airborne dusts."

IDAPA 58.01.01.651.05 **Paving**
"Paving of roadways and their maintenance in a clean condition, where practical."

IDAPA 58.01.01.651.06 **Removal Of Materials**
"Prompt removal of earth or other stored material from streets, where practical."

IDAPA 58.01.01.675
FUEL BURNING EQUIPMENT -- PARTICULATE MATTER

Glanbia will adhere to guidelines under IDAPA 58.01.01.675 through IDAPA 58.01.01.681 with regards to particulate emissions for fuel burning equipment.

IDAPA 58.01.01.676
STANDARDS FOR NEW SOURCES

> "A person shall not discharge into the atmosphere from any fuel burning equipment with a maximum rated input of ten (10) million BTU's per hour or more, and commencing operation on or after October 1, 1979, particulate matter in excess of the concentrations shown in the following table:"

TABLE 2 - IDAPA 58.01.01.676 STANDARDS FOR NEW SOURCES

Fuel Type	Allowable Particulate gr/dscf	Emissions, @Oxygen
Diesel	0.05	3%
Gas	0.015	3%

IDAPA 58.01.01.701
PARTICULATE MATTER - NEW EQUIPMENT PROCESS WEIGHT LIMITATIONS

1. Lactose Scrubber
2. Lactose Baghouse

As detailed in Appendix D, Glanbia complies with the applicable process weight requirements outlined under IDAPA 58.01.01.700 through IDAPA 58.01.01.703.

IDAPA 58.01.01.700.02 **Minimum Allowable Emission**

"Notwithstanding the provisions of Sections 701 and 702, no source shall be required to meet an emission limit of less than one (1) pound per hour."

IDAPA 58.01.01.700.03.b **Averaging Period - Worst Case**

"One (1) hour of operation representing worst-case conditions for the emissions of particulate matter."

IDAPA 58.01.01.775
RULES FOR CONTROL OF ODORS

Glanbia will follow the guidelines set under IDAPA 58.01.01.775 through IDAPA 58.01.01.776 to control odorous emissions from all sources for which no gaseous emission control rules apply.

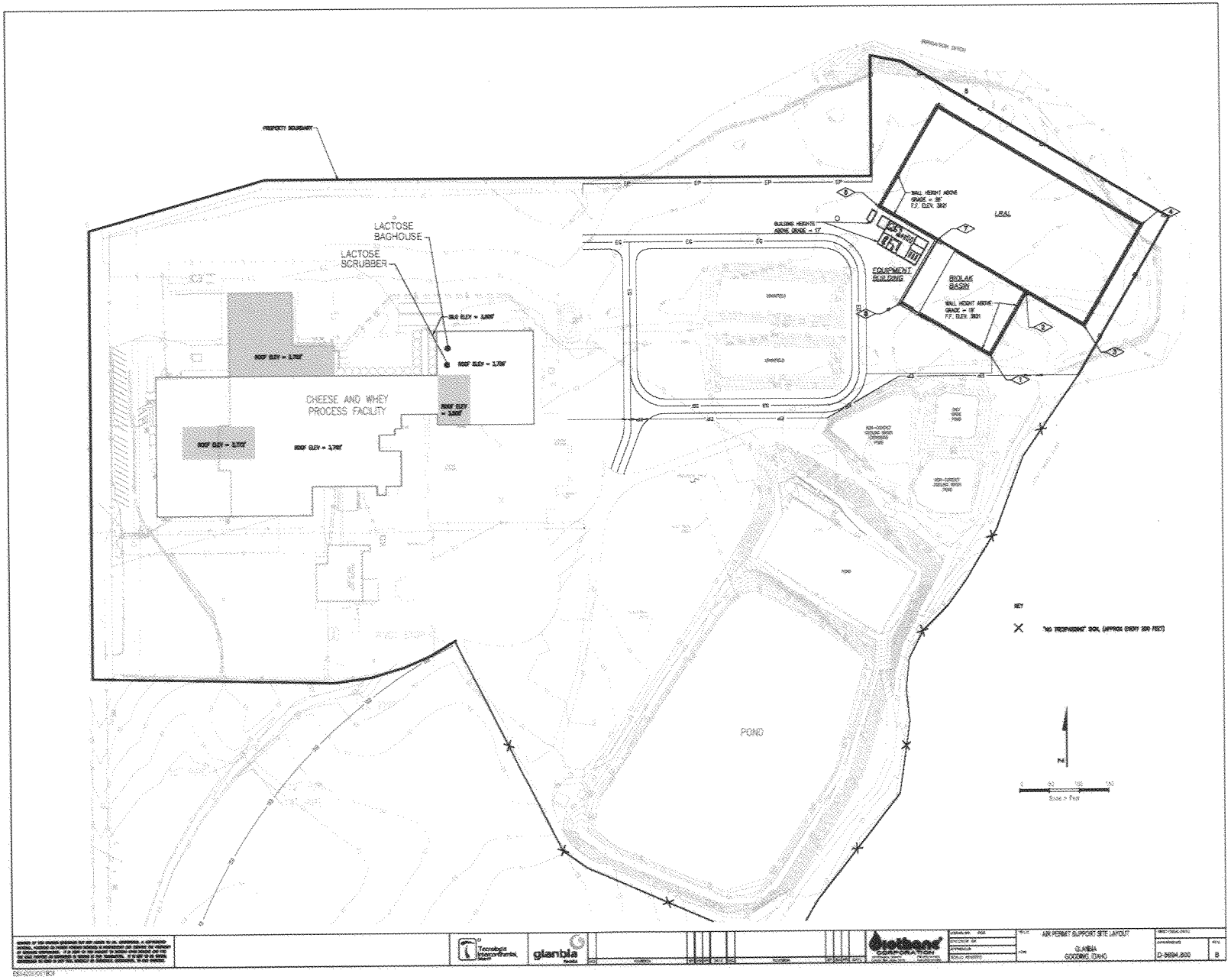
IDAPA 58.01.01.776

GENERAL RULES

IDAPA 58.01.01.776.01 **General Restrictions**

"No person shall allow, suffer, cause or permit the emission of odorous gases, liquids or solids into the atmosphere in such quantities as to cause air pollution."

Figure



ABR PERMIT SUPPORT SITE LAYOUT

GLANBIA
GOODING, IDAHO

D-9894.800

B

Appendices

Appendix A

Public Meeting Announcement